

APPENDIX E

Potable and Wastewater Treatment Facilities

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POTABLE WATER TREATMENT FACILITIES

Most potable water used in the Upper East Coast Planning Area is produced both by large (20 MGD) and small (≤ 0.01 MGD) water treatment facilities. This section will focus on the larger and/or regional facilities, which due to their existing and/or future design capacities, could have an impact on the water resource.

There are 12 existing and 1 proposed large and/or regional facilities. These water treatment facilities and proposed/future facilities are mostly located in the urbanized areas throughout the UEC Planning Area, as indicated on Figure E-1. Six of the facilities are privately owned. Of the 12 existing facilities, 5 use lime softening exclusively, 2 use a membrane technology, 4 use aeration and chlorination, and 1 uses a combination of lime softening and reverse osmosis. The total treatment capacity of these facilities is 50.96 million gallons per day (MGD), of which there was a 1993 average annual demand of 24.93 MGD. Key information for each utility is summarized in Table E-1.

Summary descriptions for each of the water treatment facilities located in the UEC Planning Area are presented in this section. Each utility capsule contains the following information:

Raw Water Supply - This section states the SFWMD permit number with the issue and expiration dates, a summary of withdrawal facilities, and the SFWMD approved allocations. All well depths are measured from land surface.

Treatment Method - This section presents the current FDEP-rated capacity, the method of treatment, the location of the treatment plant, and the 1993 average daily flow. The concentrate/brine reject disposal method, if a membrane or electrodialysis (ED) technology is used for treatment, is provided.

Interconnections - This section describes water distribution system interconnections with other potable water distribution systems.

Proposed - This section states any current construction or permitting that is underway.

Future- This section presents projected utility flows (as provided by the utility) and known future treatment plant expansions and plans, including additional facilities and wellfields.

**Figure E-1.
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**Table E-1.
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MARTIN COUNTY

POTABLE WATER TREATMENT FACILITIES

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**Table E-2.
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**Figure E-2.
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**Table E-3.
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**Figure E-3.
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**Table E-4.
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**Figure E-4.
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Table E-5.
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**Figure E-6.
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**Table E-6.
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**Figure E-6.
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**Table E-7.
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**Figure E-7.
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Table E-8.
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**Figure E-8.
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**Table E-9.
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**Figure E-9.
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ST. LUCIE COUNTY

POTABLE WATER TREATMENT FACILITIES

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**Table E-10.
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Table E-10. (Contd)
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**Figure E-10.
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**Table E-11.
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**Figure E-11.
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**Table E-12.
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**Figure E-12.
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**Table E-13.
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Table E-13. (Contd)
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**Figure E-13.
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Table E-14.
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**Figure E-14.
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WASTEWATER TREATMENT FACILITIES

The primary means of wastewater treatment in the Upper East Coast Planning Area is through wastewater treatment facilities and septic tanks. There are approximately 170 existing FDEP regulated wastewater treatment facilities in the UEC Planning Area, 12 of which have FDEP-rated capacities of 0.2 million gallons per day (MGD) or greater. This discussion focuses on these 12 facilities and 2 proposed facilities because they have sufficient flows that could have a positive impact on the water resource through reuse. These facilities are large enough to allow economy of operation in support of a regional reuse program. Many are also located in areas in close proximity to potential reclaimed water users.

These wastewater facilities and proposed/future facilities are located in most of the urbanized areas throughout the UEC Planning Area, as indicated on Figure E-15. More than half of the facilities are municipally owned, and all the facilities use the activated sludge treatment process. The reclaimed water/effluent disposal methods consist of discharge to surface waters, deep well injection, and reuse via green space irrigation and ground water recharge. These facilities have a total rated capacity of 22.71 MGD and are identified by facility name in Table E-15. The table lists the average daily flow (ADF) and the method of disposal in 1993 of each facility. The 1993 ADF for these facilities was 13.05 MGD.

The wastewater flows for these facilities are projected to increase to approximately 43.36 MGD by the year 2010. General descriptions of the disposal methods follow.

Disposal Methods

Three effluent disposal methods are used in the UEC Planning Area: surface water discharge, deep well injection, and reuse.

Surface Water Discharge

This method of effluent disposal consists of disposing the effluent through a pipeline to a receiving surface water. Effluent prior to disposal is required to have received at least secondary treatment (20 mg/L carbonaceous biochemical oxygen demand [CBOD], 20 mg/L total suspended solids [TSS] or 90 percent removal, whichever is more stringent) and basic level disinfection. Additional levels of treatment may be required and are based upon the characteristics of the effluent and the receiving water, as well as other regulatory requirements and standards. Effluent standards from this method are known as water quality based effluent limitations (WQBELs). A WQBEL is a means of determining the available assimilative capacity of a water body and setting effluent limits utilizing appropriate procedures for simulation and prediction of water quality impacts. WQBELs are established to ensure that water quality standards in a receiving body of water will not be violated (Chapter 17-650, F.A.C.).

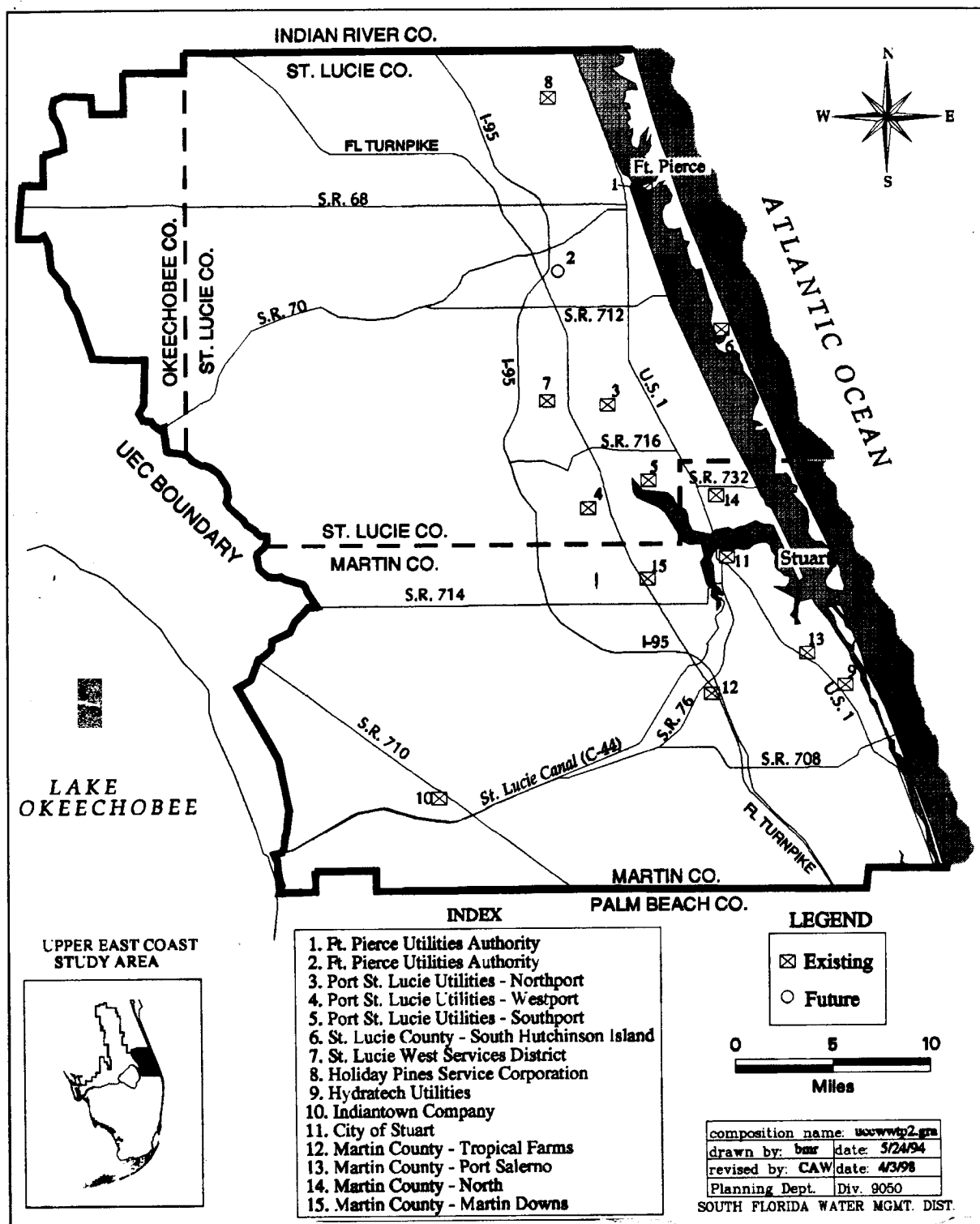


FIGURE E-15. Wastewater Treatment Facilities in the UEC Planning Area.

TABLE E-15. Wastewater Treatment Facilities in the UEC Planning Area.

Facility	FDEP Rated Capacity (MGD)	1993 Average Daily Flow (MGD)	Disposal Method			Chloride (mg/L)	Year 2010 Projected Flow (MGD)
			Deep Well	Surface Water	Reuse		
Martin County							
Hydratech	1.20	0.48			0.48	76	0.85
Indiantown	1.00	0.47			0.47	B	0.96
Martin County - Martin Downs	1.00	0.52			0.52	163	0.87
Martin County - North	0.60	0.29	0.29			B	3.70
Martin County - Port Salerno	1.50	0.79			0.79	135	5.80
Martin County - Tropical Farms	A	A				A	1.80
Stuart	3.00	1.55	1.55			B	3.40
County Subtotal	8.30	4.10	1.84	0	2.26	---	17.38
St. Lucie County							
Ft. Pierce	9.00	6.39		6.39		B	14.40
Holiday Pines	0.21	0.10			0.10	B	1.50
Port St. Lucie - North Port	1.50	0.71	0.71			299	1.69
St. Lucie County - South Hutchinson Island	A	A				A	2.25
Port St. Lucie - South Port	2.20	1.33	1.04		0.29	160	3.04
Port St. Lucie - West Port	0.50	0.17			0.17	B	1.10
St. Lucie West	1.00	0.25			0.25	137	2.00
County Subtotal	14.41	8.95	1.75	6.39	0.81	---	25.98
UEC TOTAL	22.71	13.05	3.59	6.39	3.07	---	43.36

A= Facility not in operation in 1993.

B = chloride concentration not available.

As regulatory requirements become more stringent, many of the dischargers may choose to find alternative means for effluent disposal. In addition, any new discharge or expansion of an existing discharge must justify compliance with the state's antidegradation requirements prior to issuance of a permit for such a discharge. The antidegradation rule requires a utility proposing to construct a new discharge, or expanding an existing discharge, to demonstrate that an alternate disposal method such as reuse of domestic reclaimed water is not feasible in lieu of a discharge to surface water, and that such a discharge is clearly in the public interest. A summary of the state's antidegradation rule is provide in Figure E-16. In addition, the 1990 Florida Legislature passed a bill requiring the elimination of existing discharges of treated effluent to the Indian River Lagoon system by July 1, 1995. Surface water discharge accounted for 49 percent (6.39 MGD) of the effluent disposal in 1993.

Florida's Antidegradation Standards

In reviewing a permit application for a surface water discharge, the Florida Department of Environmental Protection must assure the application is consistent with the antidegradation policy set forth in Section 17-3.041, Florida Administrative Code (F.A.C.) prior to issuance of a permit. Such that, when reviewing a permit application for a surface water discharge, the following criteria must be reviewed:

1. Whether water quality standards will be violated.
2. Whether "existing uses" are being maintained.
3. Whether the proposed (new or expanded) discharge is "necessary or desirable under federal standards and under circumstances which are clearly in the public interest."

This requires consideration of:

 - a. The balancing test

The benefit to the public health, safety, and welfare is to be balanced against whether the discharge will adversely affect fish and wildlife, endangered species, or their habitats; whether the proposed discharge will adversely affect recreation or marine resources; and whether the proposed discharge is consistent with any applicable SWIM plan.
 - b. The options review

This requires the applicant to demonstrate that neither of the following is economically and technologically reasonable:

 - 1) Reuse of domestic reclaimed water.
 - 2) Certain other options other than the proposed discharge that would eliminate or minimize the need to lower water quality (those others being reuse, use of other discharge locations, or land application).

FIGURE E-16. Surface Water Discharge Antidegradation Standards.

Deep Well Injection Class I Wells

This method of disposal consists of injecting secondary treated (20 mg/L CBOD, 20 mg/L TSS) effluent (no disinfection required) through a steel conduit (casing) to the boulder zone, a fractured carbonate sequence formation found at depths ranging from 1,900 to 3,300 feet below the ground surface in the UEC Planning Area. There are four existing facilities which utilize deep well injection for a portion of their effluent disposal. Deep wells also serve as an alternative means of disposal for the reuse system. Disposal by deep well injection accounted for 28 percent (3.59 MGD) of the effluent disposal in 1993.

Reuse

This method of disposal consists of utilizing treated wastewater (reclaimed water) for a beneficial purpose. Various methods of reuse are identified in Appendix I of this report. There are eight facilities in the UEC Planning Area that reused all or a portion of their 1993 flows. In 1993, reclaimed water was utilized for golf course, residential lawn, park and green space irrigation, and for ground water recharge via percolation ponds. Many of the facilities utilize their reclaimed water/effluent for plant process water, and some for irrigation of the utility site (which also could be considered reuse). In 1993, 24 percent (3.07 MGD) of the treated wastewater was reused. Over 20 golf courses in the planning area utilized reclaimed water for irrigation in 1993.

Effluent disposal via discharge to surface waters and deep well injection result in net loss from the water supply inventory. These methods of effluent disposal accounted for 9.88 MGD of water lost from the water supply inventory in 1993. Most of the facilities utilizing these methods of effluent disposal could have potentially made reclaimed water available for public access reuse with the addition of filtration and associated chemical feed facilities, disinfection, and reclaimed water monitoring equipment at the treatment plant. The facilities would have to justify a facility reliability of Class I, or an equivalent, which may exist as their current method of effluent disposal. The existing method of effluent disposal may also be viable as an alternative means of disposal, which may negate the need for regulatory mandated system storage. Additional information on reuse can be found in the wastewater reuse discussion in Chapter VI.

Summary Descriptions of Existing Wastewater Facilities

Summary descriptions for each of the wastewater treatment facilities located in the UEC Planning Area, from which the previously summarized information was obtained, are presented in the following section. Each utility capsule contains the following information:

Treatment/Disposal ■ This section presents the current FDEP-rated capacity, the method of treatment and disposal, the 1993 average daily flow, and the reclaimed water/effluent chloride concentration.

Address ■ This section provides the treatment plant address or location,

Reuse Feasibility ■ This section states what would be generally required for the treatment facility to produce reclaimed water for public access irrigation and any known constraints.

Proposed ■ This section states any current construction or permitting that is underway.

Future ■ This section presents projected flows and known future treatment plant expansions and plans, including new additional facilities.

MARTIN COUNTY
WASTEWATER TREATMENT FACILITIES

Hydratech Utilities

Treatment/Disposal:

The wastewater treatment facility consists of an existing 1.2 MGD activated sludge (contact stabilization) wastewater treatment plant with reclaimed water disposal via reuse by golf course irrigation and percolation ponds. The facility is operated by the Hydratech Utilities Inc. Irrigation with reclaimed water is implemented at the following location:

<u>Site</u>	<u>Type</u>	<u>1993 ADF (MGD)</u>
Loblolly Pines	Golf Course	0.27

The 1993 average daily wastewater flow was 0.48 MGD. The maximum month average daily flow was 0.64 MGD in November and the minimum month average daily flow was 0.38 MGD in August. The typical reclaimed water chloride concentration is 76 mg/L.

Location:

8181 SE. Skylark Avenue, Hobe Sound.

Reuse Feasibility:

This facility has existing capacity to produce 0.6 MGD of reclaimed water for public access irrigation. This system will be expanded accordingly as flows increase with the intention of reusing all water treated at this facility via public access irrigation.

Proposed:

A 0.90 MGD reclaimed water land application system for the proposed Medalist Golf Club has been contracted.

Future:

Plans not available.

Source:

Information supplied by the Hydratech Utilities.

Indiantown Company**Treatment/Disposal:**

The wastewater treatment facility consists of an existing 1.00 MGD activated sludge wastewater treatment plant with reclaimed water disposal by reuse via percolation ponds. The facility is operated by the Indiantown Company. The 1993 average daily flow was 0.47 MGD. The maximum month average daily flow was 0.50 MGD in March and the minimum month average daily flow was 0.42 MGD in August.

Location:

At the corner of 1st Street and Palm Beach Avenue in Indiantown.

Reuse Feasibility:

This facility is designed to provide secondary standard treatment. For this water to be made available for public access reuse in accordance with Chapter 17-610, F.A.C., filtration and the associated chemical feed system, disinfection facilities and reclaimed water monitoring equipment would have to be constructed. An equivalent to Class I reliability may exist via the existing disposal method, which could also serve as an alternate means of disposal to the public access reuse system.

Proposed:

Two additional percolation ponds and reclaimed water irrigation system for a 20-acre orange grove is anticipated to be completed in the summer of 1994.

Future:

The Indiantown Company proposes to start design and permitting of a plant expansion to 2.0 MGD after the year 2000. Reuse for future disposal will be via an agricultural reuse system.

Source:

Information provided by Indiantown Company.

Martin County - Martin Downs**Treatment/Disposal:**

The wastewater treatment facility consists of an existing 1.00 MGD activated sludge wastewater treatment plant with reclaimed water disposal via reuse by golf course irrigation and percolation ponds. The facility is operated by Martin County. Irrigation with reclaimed water is implemented at the following locations:

<u>Site</u>	<u>Type</u>	<u>1993 ADF (MGD)</u>
Crane Creek	Golf Course	0.18
Towers	Golf Course	-----

The 1993 average daily wastewater flow was 0.52 MGD of which 0.13 MGD was utilized for irrigation. The maximum month average daily flow was 0.66 MGD in December and the minimum month average daily flow was 0.41 MGD in July. The typical average reclaimed water chloride concentration is 163 mg/L.

Location:

Approximately one mile north of S.R. 714, East of Florida's Turnpike

Reuse Feasibility:

This facility has existing capacity to produce 1.00 MGD of reclaimed water for public access irrigation.

Proposed:

Plans not available.

Future:

Plans not available.

Source:

Information supplied by Martin County.

Martin County • North**Treatment/Disposal:**

The wastewater treatment facility consists of an existing 0.6 MGD activated sludge wastewater treatment plant with effluent disposal by deep well injection. The facility is operated by Martin County. The 1993 average daily flow was 0.29 MGD. The maximum month average daily flow was 0.35 MGD in January and the minimum month average daily flow was 0.24 MGD in September. The typical effluent chloride concentration is 142 mg/L.

Location:

On Commercial Boulevard (Jensen Beach Boulevard), approximately 0.7 miles east of U.S. 1 in Jensen Beach.

Reuse Feasibility:

This facility is designed to provide secondary standard treatment. For this water to be made available for public access reuse in accordance with Chapter 17-610, F.A.C., filtration and the associated chemical feed system, disinfection facilities and reclaimed water monitoring equipment would have to be constructed. An equivalent to Class I reliability may exist via the existing disposal method, which could also serve as an alternate means of disposal to the public access reuse system.

Proposed:

Plans not available.

Future:

Martin County is planning to expand the plant to treat 1.2 MGD in 1995. The county is also planning a public access reuse system to serve West Jensen for spray irrigation. The recommended plan for this plant is to convert from contact stabilization to oxidation ditch treatment. The plan indicates the plant will be expanded to 3.6 MGD by the year 2010 based on a population of 46,600 and a 80 GPD per capita flow rate.

Source:

Information provided by Martin County.

Martin County • Port Salerno (Dixie Park)**Treatment/Disposal:**

The wastewater treatment facility consists of an existing 1.5 MGD activated sludge wastewater treatment plant with reclaimed water disposal by reuse via spray irrigation and percolation ponds. The facility is operated by Martin County. Irrigation with reclaimed water is implemented at the following locations:

<u>Site</u>	<u>Type</u>	<u>1993 ADF (MGD)</u>
Heritage Ridge	Golf Course	0.35
Double Tree	Golf Course	0.35

In addition, Heritage Ridge can percolate an additional 0.5 MGD of reclaimed water in their lake system.

The 1993 average daily flow was 0.79 MGD. The maximum month average daily flow was 1.00 MGD in January and the minimum month average daily flow was 0.68 MGD in November. The typical reclaimed water chloride concentration is 135 mg/L.

Location:

At S.E. Inez Way, Port Salerno.

Reuse Feasibility:

This facility has existing capacity to produce 1.5 MGD of reclaimed water for public access irrigation.

Proposed:

The county is planning to interconnect this reclaimed water system with the proposed Tropical Farms reclaimed water system. This will divert 0.5 MGD of wastewater from the Martin County • Port Salerno wastewater system to the Martin County • Tropical Farms System.

Future:

The Martin County draft master plan proposes a 2.5 MGD expansion to take place prior to 2010, for a total plant capacity of 4.0 MGD. Some potential future users of reclaimed water include:

<u>Site</u>	<u>Type</u>	<u>Estimated Demand (MGD)</u>
Mariner Sands	Golf Course	1.00 (under contract)
Willoughby	Golf Course	0.50
Summerfield	Golf Course	0.50
Florida Club	Golf Course	0.25 (under contract)
Seawind Corp	Golf Course	0.45 (under contract)

Source:

Information provided by Martin County.

Martin County • Tropical Farms**Proposed:**

The Tropical Farms area currently does not have a regional facility providing wastewater service. However, flow projections indicate a build-out demand of 1.8 MGD. The proposed facility is a 0.92 MGD activated sludge wastewater treatment plant with reclaimed water disposal by ground water recharge via percolation ponds and by public access irrigation.

The county is planning to interconnect this reclaimed water system with the proposed Tropical Farms reclaimed water system. This will divert 0.5 MGD of wastewater from the Martin County • Port Salerno wastewater system to the Martin County • Tropical Farms System.

Location:

The proposed location is west of the Florida Turnpike and south of Kansas Avenue in Martin County.

Reuse Feasibility:

The proposed treatment facility is designed to provide reclaimed water for public access irrigation. Initially, reuse will be by percolation ponds. However, Tropical Farms will provide reclaimed water to Florida Club Golf Course upon its completion. The county plans to provide reclaimed water to the following users.

<u>Site</u>	<u>Type</u>	<u>Proposed ADF (MGD)</u>
Florida Club	Golf Course	0.25
Mariner Sands	Golf Course	1.25
Seawind Corp	Golf Course	0.45
Summerfield	Golf Course	0.50

Future:

The ultimate design will provide plant capacity to treat 1.8 MGD.

Source:

Information provided by Martin County.

Stuart, City of**Treatment/Disposal:**

The wastewater treatment facility consists of an existing 4.00 MGD activated sludge wastewater treatment plant with effluent disposal via a 10-inch diameter deep injection well. The facility has a FDEP rated capacity of 3.00 MGD because of the disposal capacity of the deep well. An emergency discharge is provided to the St. Lucie River via the old outfall pipe. The facility is operated by the City of Stuart. The 1993 average daily flow was 1.55 MGD. The maximum month average daily flow was 2.24 MGD in October and the minimum month average daily flow was 1.27 MGD in July.

Combined sewers within the downtown have been eliminated; however, areas where potential I/I are known.

Location:

Stypmann Boulevard, Stuart.

Reuse Feasibility:

This facility is designed to provide secondary standard treatment. For this facility to provide reclaimed water for public access spray irrigation in accordance with Chapter 17-610, F.A.C., filtration and the associated chemical feed system, disinfection facilities and reclaimed water monitoring equipment would have to be constructed. An equivalent to Class I reliability may exist via the existing deep well injection system, which could also serve as an alternate means of disposal to the reuse system, up to the disposal capacity of the deep well. At this time, it is not anticipated that the deep well injection system can dispose of the build-out forecast peak wastewater flows.

Proposed:

No plans at present.

Future:

The 1988 City of Stuart water and wastewater master plan indicates the build-out average daily wastewater flows for the service area are anticipated to increase to 2.41 MGD with a maximum month average daily flow of 3.40 MGD. Build-out is anticipated to occur prior to 2010. The build-out population is estimated to be 20,900. The flow projections also assume that existing areas served by septic tanks will not be **sewered**. Approximately 5,900 people are served by septic tanks within the service area. The capacity of the existing deep well is not sufficient to dispose of the projected flows. Construction of an additional deep well or reuse system is planned to dispose of the additional flows.

Source:

Information provided by the City of Stuart.

ST. LUCIE COUNTY
WASTEWATER TREATMENT FACILITIES

Fort Pierce Utilities Authority**Treatment/Disposal:**

The wastewater treatment facility consists of an existing 9.00 MGD activated sludge wastewater treatment plant with secondary treated effluent disposal via a surface water discharge to the Indian River near the Fort Pierce Inlet. A deep well injection system was placed into service in August 1994.

The 1993 average daily wastewater flow was 6.39 MGD. The maximum month average daily flow was 8.41 MGD in October and the minimum month average daily flow was 5.47 MGD in May.

Location:

403 Seaway Drive on Hutchinson Island, Fort Pierce.

Reuse Feasibility:

This existing WWTP is designed to provide secondary standard treatment. For this facility to provide reclaimed water for public access spray irrigation in accordance with Chapter 17-610, F.A.C., filtration and the associated chemical feed system, disinfection facilities and reclaimed water monitoring equipment would have to be constructed. An equivalent to Class I reliability may exist via the proposed deep well injection system. This facility has existing capacity to produce 7.2 MGD of reclaimed water for public access irrigation.

The Indian River Lagoon Act of 1990 requires that wastewater treatment facility discharges into the Indian River Lagoon be terminated by July 1, 1995 and that utilities investigate the feasibility of a water reclamation system. A deep well injection system for Fort Pierce Utilities Authority (FPUA) went into service in June 1994. Construction of the 20-inch diameter reuse line transversing the Indian River Lagoon will start in May 1994. The utility is waiting for the FDEP construction permit. Future disposal will be a combination of deep well injection and reuse of reclaimed water, surface discharge will be eliminated when the deep well comes on line.

Proposed:

FPUA recently began planning construction for wastewater reuse. A 20-inch reclaimed water line to cross the Indian River Lagoon will be constructed starting in May 1994. No costumers for reuse have been identified. The deep well will serve as a backup to the reuse system once reuse is implemented.

Future:

The FPUA Water and Wastewater Master Plan projects future annual average wastewater flows of 12 MGD and maximum month average day wastewater flows of 14.4 MGD for the ultimate service area in the year 2010. These flows are greater than the capacity of the existing WWTP. A 25 acre site on Glades Cutoff Road, north of Midway Road has been purchased for a Mainland WWTP (MWWTP). Preliminary studies are underway for an initial phase of 3 MGD expandable to 15 MGD. Phase 1 is expected to go on line in late 1999. The proposed MWWTP will incorporate reclaimed water treatment processes.

Source:

Information supplied by Fort Pierce Utilities Authority.

Holiday Pines Service Corporation

Treatment/Disposal:

The wastewater treatment facility consists of an existing 0.21 MGD activated sludge wastewater treatment plant with reclaimed water disposal by reuse via percolation ponds. The facility is owned by the Holiday Pines Service Corporation (HPSC). The 1993 average daily flow was 0.1 MGD. The maximum month average daily flow was 0.12 MGD in March and the minimum month average daily flow was 0.08 MGD in May.

Location:

At Kings Highway (S.R. 713) and Indian Pines Boulevard.

Reuse Feasibility:

This facility is designed to provide secondary standard treatment. For this water to be made available for public access reuse in accordance with Chapter 17-610, F.A.C., filtration and the associated chemical feed system, disinfection facilities and reclaimed water monitoring equipment would have to be constructed. An equivalent to Class I reliability may exist via the existing disposal method, which could also serve as an alternate means of disposal to the public access reuse system.

Proposed:

The St. Lucie County Utilities Services Department is in the process of acquiring this facility.

Future:

The draft St. Lucie County Water and Wastewater Master Plan proposes a 1.50 MGD expansion to take place prior to 1996, for a total plant capacity of 1.71 MGD. Reclaimed water disposal is proposed to be reuse via irrigation of the Indian Pines golf course and the St. Lucie County International Airport which will account for approximately 0.85 MGD. Additional disposal would be needed for the 1.71 MGD capacity. Projected flow is to increase to 1.50 MGD by 2011. Prior to this time, a new 4.00 MGD regional facility is planned to be constructed along Kings Highway, just south of Indrio Road.

Source:

Information provided by Holiday Pines Service Corporation and St. Lucie County.

Port St. Lucie Utilities- North Port**Treatment/Disposal:**

The wastewater treatment facility consists of an existing 1.50 MGD activated sludge wastewater treatment plant, limited to 1.00 MGD, with effluent disposal via a 12-~~4~~ inch diameter deep injection well. The facility is operated by the St. Lucie County Utility Services Department (SLCUSD). The 1993 average daily flow was 0.71 MGD. The maximum month average daily flow was 0.98 MGD in August and the minimum month average daily flow was 0.54 MGD in March. The typical effluent chloride concentration is 299 mg/L.

Location:

On St. James Road, one quarter mile north of Airosa Boulevard, Port St. Lucie.

Reuse Feasibility:

This facility is designed to provide secondary standard treatment. For this water to be made available for public access reuse in accordance with Chapter 17-610, F.A.C., filtration and the associated chemical feed system, disinfection facilities and reclaimed water monitoring equipment would have to be constructed. An equivalent to Class I reliability may exist via the existing deep well injection system, which could also serve as an alternate means of disposal to the reuse system.

Proposed:

No plans available.

Future:

The draft St. Lucie County Water and Wastewater Master Plan proposes a 1.50 MGD expansion to take place prior to 2005. The 2010 projected flow for this facility is 1.69 MGD. In **1993**, it was proposed to construct a 1.50 MGD reclaimed water facility and a reclaimed water transmission system to St. Lucie West, where it is projected that the irrigation demand will exceed their reclaimed water supply. In addition, green space and residential reuse is planned for future developments.

Source:

Information provided by St. Lucie County.

St. Lucie County - South Hutchinson Island**Proposed:**

This proposed facility and collection system will serve South Hutchinson Island in St. Lucie County. Residents in Martin County on South Hutchinson Island will likely become a wholesale customer to this St. Lucie County Utility Services Department (SLCUSD) facility. This area is currently served by approximately 39 package wastewater treatment plants (23 in St. Lucie County, 16 in Martin County), of which many are problem plagued.

The proposed wastewater treatment facility will consist of an 2.25 MGD activated sludge (oxidation ditch) wastewater treatment plant with reclaimed water disposal by green space irrigation on the island. Excess reclaimed water will be discharged into the Florida Power and Light (FPL) cooling water canal.

Location:

On Hutchinson Island, immediately South of the "Dunes" Condominium and FPL power plant.

Reuse Feasibility:

This facility will be designed to provide reclaimed water for public access irrigation at its design capacity.

Future:

This facility is designed for build-out.

Source:

Information provided by St. Lucie County and Camp, Dresser & McGee, Inc.

Port St. Lucie Utilities • South Port**Treatment/Disposal:**

The wastewater treatment facility consists of an existing 2.20 MGD activated sludge wastewater treatment plant with reclaimed water disposal via golf course irrigation and a 12-inch diameter deep injection well. Irrigation with reclaimed water has been initiated on 158 acres of golf course and 120 acres of green space at Ballantrae Golf and Yacht Club. The facility is operated by the St. Lucie County Utility Services Department (SLCUSD). The 1993 average daily flow was 1.33 MGD. The maximum month average daily flow was 1.71 MGD in April and the minimum month average daily flow was 1.52 MGD in May. Approximately 22 percent of the wastewater flow in 1993 was reused. The typical reclaimed water/effluent chloride concentration is 160 mg/L.

Location:

Intersection of Sunshine Avenue and Pine Valley Street, Port St. Lucie.

Reuse Feasibility:

The 1.40 MGD reclaimed water treatment system was completed in 1992. The Ballantrae Golf and Yacht Club has a estimated demand of 0.75 MGD (actual .3 MGD). Expansion of the reuse system is planned to two adjacent golf courses, Club Med (.5 MGD) and Atlantic Gulf Community's "Wilderness" course (.25 MGD).

Proposed:

Plans not available.

Future:

The draft St. Lucie County Water and Wastewater Master Plan proposes two 2.00 MGD expansions to take place in 1997 and 2007. During this time period an existing 1.20 MGD treatment train will be abandoned, resulting in total treatment plant capacity of 5.00 MGD following these expansions. The 2010 projected flows for this facility are 3.04 MGD. Disposal of the expanded flow will be by deep well injection. Reclaimed water will be made available when needed.

Source:

Information provided by St. Lucie County.

Port St. Lucie Utilities - West Port**Treatment/Disposal:**

The wastewater treatment facility consists of an existing 0.50 MGD activated sludge wastewater treatment plant, limited to 0.25 MGD, with reclaimed water disposal by reuse via nine acres of percolation ponds. The facility is operated by the St. Lucie County Utility Services Department (SLCUSD). The 1993 average daily flow was 0.17 MGD. The maximum month average daily flow was 0.22 MGD in July and the minimum month average daily flow was 0.10 MGD in January.

Location:

Corner of Darwin Boulevard and Feldman Street, Port St. Lucie.

Reuse Feasibility:

This facility is designed to provide secondary standard treatment. For this water to be made available for public access reuse in accordance with Chapter 17-610, F.A.C., filtration and the associated chemical feed system, disinfection facilities and reclaimed water monitoring equipment would have to be constructed. An equivalent to Class I reliability may exist via the existing percolation ponds which could also serve as an alternate means of disposal to the public access reuse system.

Proposed:

The SLCUSD has applied for three additional percolation ponds.

Future:

The draft St. Lucie County Water and Wastewater Master Plan proposes a 1.50 MGD expansion to take place prior to 2005. The 2010 projected flow for this facility is 1.10 MGD. It is proposed to obtain land for restricted public access irrigation for 0.30 MGD of disposal for a total disposal capacity of 0.55 MGD. The county also proposes to construct reclaimed water transmission facilities for irrigation of an existing and proposed park in Windmill Point. Other potential reclaimed water uses are an existing elementary school, future high school, commercial and multifamily developments.

Source:

Information provided by St. Lucie County.

St, Lucie West Services District**Treatment/Disposal:**

The wastewater treatment facility consists of an existing 2.00 MGD activated sludge wastewater treatment plant, limited to 1.0 MGD, with reclaimed water disposal via reuse by irrigation of all landscape areas within the development, including residential areas, via a dual water system. The facility is operated by St. Lucie West Services District. The 1993 average daily wastewater flow was 0.25 MGD. The maximum month average daily flow was 0.28 MGD in November and the minimum month average daily flow was 0.22 MGD in June. The typical average reclaimed water chloride concentration is 137 mg/L.

Location:

The southwest corner of the intersection of Prima Vista Boulevard and Cashmere Boulevard in St. Lucie West.

Reuse Feasibility:

This facility has existing capacity to produce 1.00 MGD of reclaimed water for public access irrigation. Reclaimed water is used to irrigate a 100 acre golf course, 57 acres of residential home sites, a 6-acre clubhouse and 10 acres of medium strips with 500 acres of additional residential irrigable acres available as new homes are built. Emergency discharge is to a man made lake located east of the plant site.

Proposed:

No plans available.

Future:

No plans available.

Source:

Information supplied by St. Lucie County, and St. Lucie West.